GEFRAN

TH
FORCE TRANSDUCER FOR TENSION/COMPRESSION APPLICATIONS

Main features

- Range of measurement: from 10 to 100 kN
- Accuracy class: 0,2%
- All stainless steel construction
- Corrosion resistant
- Internally generated calibration signal
- Grade of protection: IP65 (DIN 40050)

The TH series force transducers are ideal for systems that measure tension or compression force in industrial applications, where accuracy and reliability are important, even in harsh environments.

The disposition of the (8) strain gauges of the measurement bridges uses the deformation produced by the shear force of the applied load. It is thus possible to make accurate force transducers that are rugged and insensitive to lateral loads. The transducer is machined from a solid block of stainless steel and contains no welds or joints. The electrical circuit is protected by sealed formed stainless steel plates.

TECHNICAL DATA

Accuracy	0,2%
Nominal full scale load (Ln)	10...100 kN
Nominal output at FSO	2mV/V
Output tolerance at Ln	<± 1% FSO
Combined errors: Non linearity Histeresis, Repeatibility	< ± 0,2% FSO
Creep (after 30 min. at Ln)	< ± 0,06% FSO
Zero load out of balance signal	< ± 1% FSO
Calibration signal *	80%FSO ± 1%
Thermal drift in Sensitivity compensated Zero range Calibration	< ± 0,02% FSO°C < ± 0,02% FSO°C < ± 0,02% FSO°C
Nominal input resistance	700 Ohm
Nominal output resistance	> 10 GOhm
Nominal supply voltage	10 V
Maximum supply voltage	18 V
Compensated temperature range	-20...+50°C
Maximum temperature range	-20...+60°C
Storage temperature range	-30...+80°C
Permitted static load	130% Ln
Maximum applicable load	150% Ln
Rupture load	> 300% Ln
Carico statico laterale max.	150% Ln
Maximum elastic deformation at Ln	< 0,1 mm
Grade of protection (DIN40050)	IP65
Electr. connections: Connector	VPT02A10-6PT2
Elastic element material	Stainless steel
Case material	Stainless steel

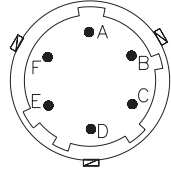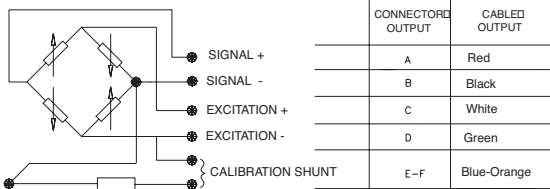*** The exact value is indicated on the instrument nameplate.**

MECHANICAL DIMENSIONS
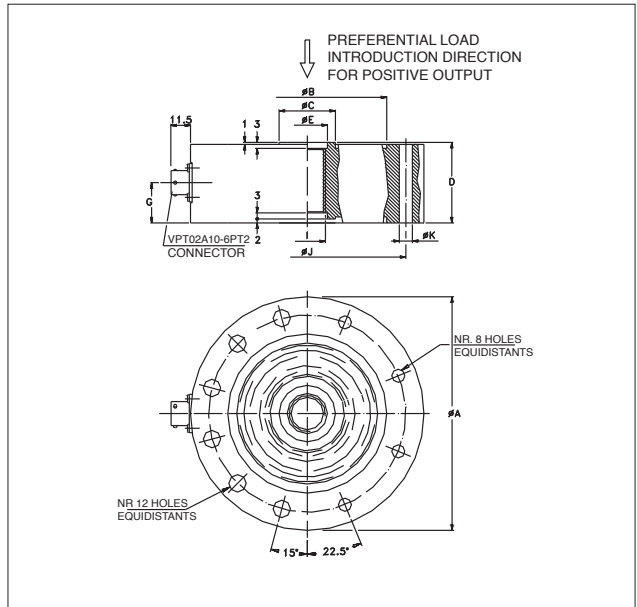
	Ln (kN)				
	10	20	30	50	100
ø A		116		154	
ø B		79		110	
ø C		28		59	
D		40		45	
ø E		20		35	
I		M18x1,5		M30x2	
ø J		98		130	
ø K		6,5		11	
Screws nr.		8xM6		12xM10	
Nm*		20		90	

Dimensions mm. (± 0,1)
* Recommended torque with UNI 5931 screws of resistance class 10.9 according to UNI 3740.

ELECTRICAL CONNECTIONS

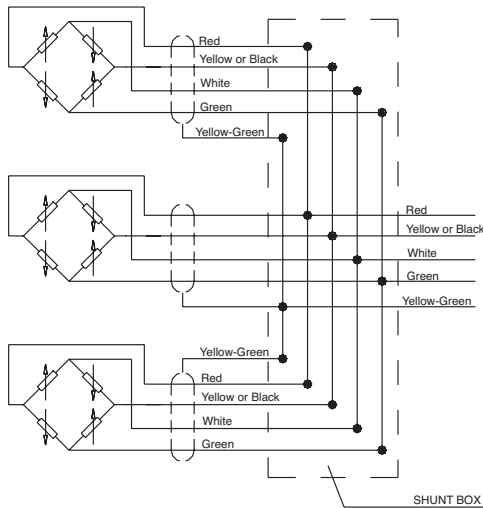|	CONNECTOR OUTPUT	CABLE OUTPUT
SIGNAL +	A	Red
SIGNAL -	B	Black
EXCITATION +	C	White
EXCITATION -	D	Green
CALIBRATION SHUNT	E–F	Blue-Orange

VPT02A10-6PT2
CONNECTOR

If the transducer is supplied complete with prewired connection cable, the colour code is that indicated in the table.

Cells connected in parallel

In systems that use several cells, the parallel connection automatically sums the loads on each individual cell.
Using this method of measurement, the maximum load will be the sum of the loads on the individual cells and the sensitivity will be the average value of these cells.
It is important that the user ensures that no cell is stessed beyond its maximum rating under any load condition.

CONVERSION TABLE

Kg	N	Lb
1	9.807	2.205
0.102	1	0.225
0.454	4.448	1

OPTIONAL ACCESSORIES

Female cable connector Grade of protection IP65	**CON 300**
6-pin connector with 8m (25ft) cable	**C08W**
6-pin connector with 15m (50ft) cable	**C15W**
6-pin connector with 25m (75ft) cable	**C25W**
6-pin connector with 30m (100ft) cable	**C30W**
Other lengths	**consult factory**

ORDER CODE

Force transducer   **TH** ☐ ☐

MEASUREMENT RANGE (kN)	
0 - 10	**KN1D**
0 - 20	**KN2D**
0 - 30	**KN3D**
0 - 50	**KN5D**
0 - 100	**KN1C**

If request, it is possible to supply models with non-standard mechanical and/or electrical features.

Es.: TH - KN5D
TH force transducer, with measurement range 0 - 50 kN.

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